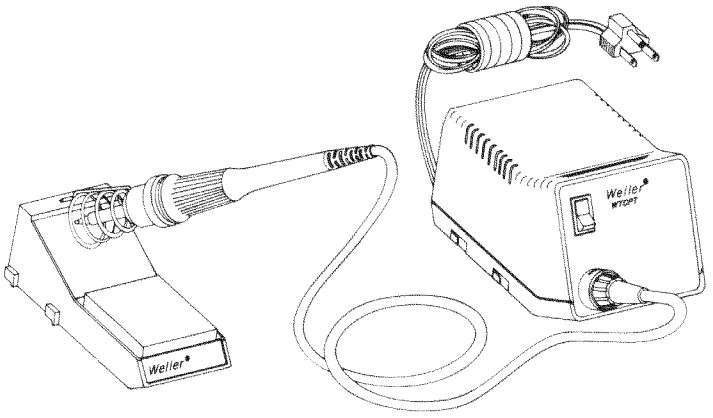
Weller® Tech Sheet

WTCPT Soldering Station

A transformer powered soldering station, complete with a lightweight, heat insulated, low voltage, temperature controlled soldering iron. The special Weller® "closed loop" method of controlling maximum tip temperature is employed, thereby protecting temperature sensitive components. The soldering iron features a stainless steel, plug in heating element construction, a non-burning silicone rubber cord, and a large selection of tips in sizes from 1/64" diameter to 15/64" diameter with a choice of tip temperature of 600°F, 700°F and 800°F. The soldering iron is normally provided with a PTA7 1/16" screwdriver 700°F tip.



The station features a housing of an impact resistant, polycarbonate plastic for durability and protection against accidental damage, a quick disconnect plug for the soldering iron, a lighted on-off switch, and a flexible 3 wire power cord.

The plastic soldering iron holder can be used attached to either side of the transformer case, or separated as shown. The iron holder incorporates a water reservoir with wick to keep the tip wiping sponge moist.

The station housing and hand piece are grounded with a separate conductor that terminates at the third pin on the power cord. The Weller® WTCPT units are UL listed.

Specifications

Power Unit

1. Power input: 120 VAC, 60 Hz, (240VAC +/- 10%, 50/60hz) 60 watts.
2. Power unit output voltage: isolated 24 VAC @ 1.75 amperes.
3. Size: 4.5" x 5.875" x 3.625".
4. Line Cord: 3 wire, U.L. recognized.

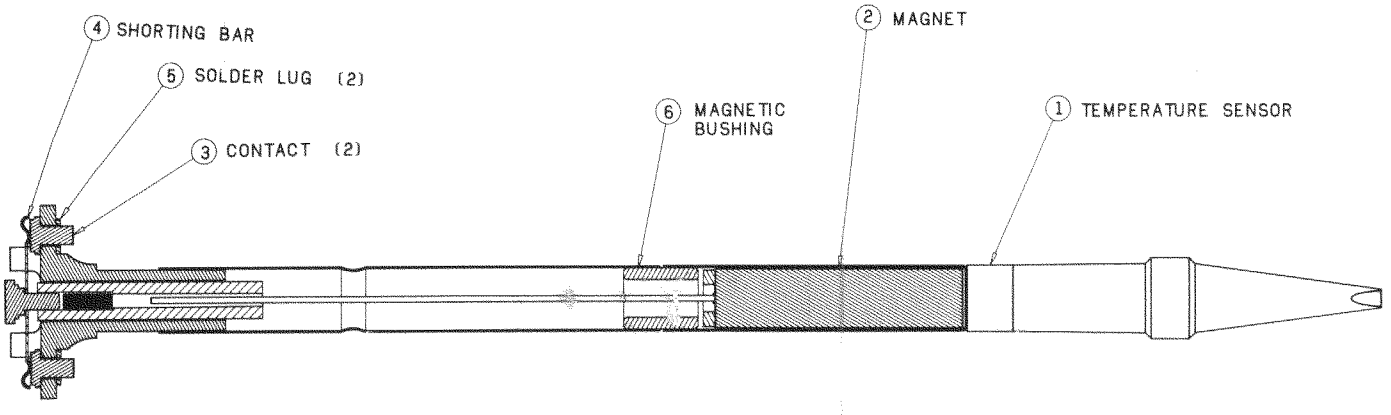
Soldering Iron

1. Wattage: 42 watts.
2. Iron weight: 2 ounces.
3. Recovery time (from 100°F drop) with PTA7 tip: 11 seconds.
4. Cord: Silicone rubber, burn resistant, 4 feet.

PRINCIPLE OF OPERATION

When the soldering tip is cold, a ferromagnetic temperature sensor (1) attached to the tip attracts a permanent magnet (2). The magnet movement causes a shorting bar (4) to make contact with a set of isolated electrical contacts (3) thereby supplying power to the heating element through the solder lugs (5). When the tip reaches its idle temperature, the sensor becomes nonmagnetic and no longer attracts the magnet. Then a magnetic bushing (6) attracts the magnet causing the shorting bar to break the circuit. In this manner, power to the heating element is turned on and off automatically.

CAUTION: Tip is grounded, do not solder an energized circuit.



WTCPT Operating Instructions

Unpack unit carefully. Place spring and funnel in slot in top of tool stand. Attach tool stand to either side of power unit, if desired. Fill reservoir with water and wet sponge, distilled water is preferred. Insert tool in holder and connect tool plug to receptacle on power unit; rotate plug housing to lock plug into receptacle. Insure correct tip is installed in iron, insert line cord plug into properly grounded AC receptacle and turn unit on. Wait 30 seconds and tin tip with solder. Unit is now ready for use.

All Weller® PT series soldering iron tips are plated with an exclusive process that deposits three protective coatings. The high conductivity copper tips are iron plated, nickel plated, then chromium plated on the non-working surfaces. The working surface is then pre-tinned. The chromium and nickel plating of the tip prevents oxidation of the iron plating which can cause freezing of the tip in the iron. Weller® "temperature sensing" tips have a small ferromagnet sensing element attached to the tip shank. The sensing element is coded with a number to indicate the tip idle temperature in hundreds of degrees F. Thus a simple change of tips is all that is necessary to adapt the tool to an entirely different temperature range. **Use only original Weller® soldering tips. The use of non-Weller components may void product warranty if the non-Weller component causes damage to the unit.**

Selection of Weller® PT Series Tips

1. Select a tip configuration with the maximum working surface, thickest cross section, and shortest reach compatible with the size, the accessibility, and the visual restrictions of the solder joint.
2. Select a tip temperature based on the size of the solder joint, the temperature sensitivity of the components, and the production rate required. Please note that tip life is directly related to tip temperature, the lower the tip temperature the longer the tip life.

600° F	700° F	800° F	Description	Tip	Reach
PTA6	PTA7	PTA8	Screwdriver	1/16"	5/8"
PTAA6	PTAA7	PTAA8	Single Flat	1/16"	5/8"
PTB6	PTB7	PTB8	Screwdriver	3/32"	5/8"
PTBB6	PTBB7	PTBB8	Single Flat	3/32"	5/8"
PTC6	PTC7	PTC8	Screwdriver	1/8"	5/8"
PTCC6	PTCC7	PTCC8	Single Flat	1/8"	5/8"
PTD6	PTD7	PTD8	Screwdriver	3/16"	3/4"
PTDD6	PTDD7	PTDD8	Single Flat	3/16"	5/8"
PTE6	PTE7	PTE8	Screwdriver	15/64"	5/8"
PTF6	PTF7	PTF8	Conical Flat	1/32"	5/8"
PTH6	PTH7	PTH8	Screwdriver	1/32"	5/8"
PTJ6	PTJ7	PTJ8	Screwdriver	1/64"	1"
PTK6	PTK7	PTK8	Long Screwdriver	3/64"	1"
PTL6	PTL7	PTL8	Long Screwdriver	5/64"	1"
PTM6	PTM7	PTM8	Long Screwdriver	1/8"	1"
PTN6	PTN7	PTN8	Screwdriver	1/16"	3/4"
PTO6	PTO7	PTO8	Long Conical	1/32"	1"
PTP6	PTP7	PTP8	Conical	1/32"	5/8"
PTQ6	PTQ7	PTQ8	Single Flat	1/32"	5/8"
PTR6	PTR7	PTR8	Narrow Screwdriver	1/16"	5/8"
PTS6	PTS7	PTS8	Long Conical	1/64"	1"
PTT6	PTT7	PTT8	Conical	.025"	5/8"
PTX6	PTX7	PTX8	Bent, Slotted	1/32"	
PTZ6	PTZ7	PTZ8	Bent, Slotted	.020"	

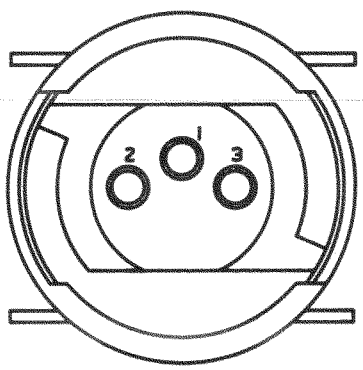
Care Of Weller® PT Series Tips

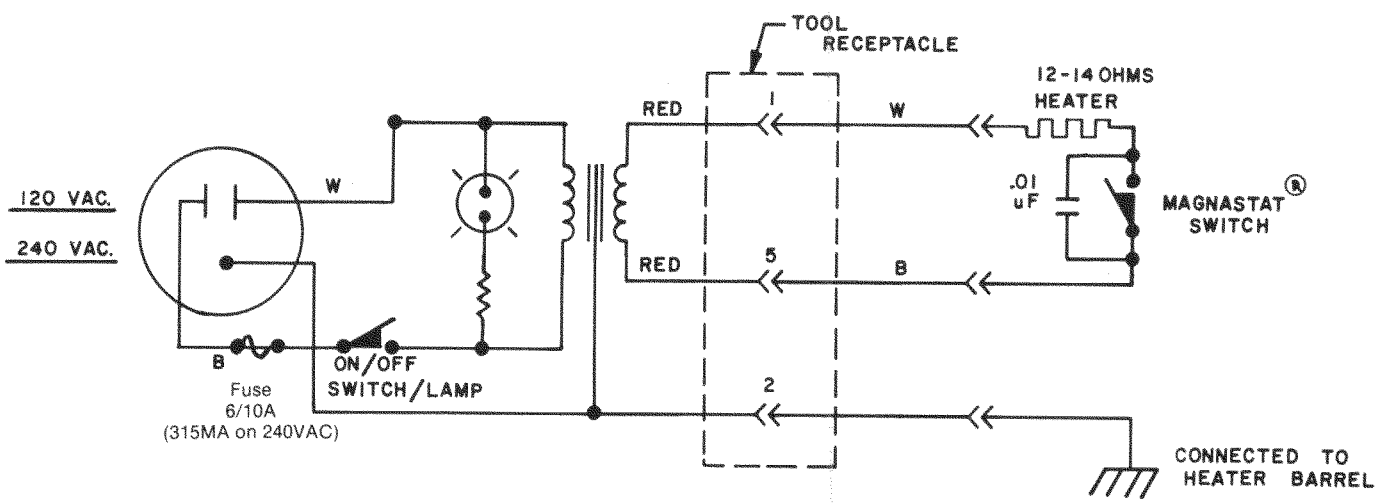
1. Keep tinned, wipe only before using.
2. Use rosin or activated rosin fluxes. Acid type fluxes will greatly reduce tip life.
3. Remove tip and clean with suitable cleaner for flux used. The frequency of cleaning will depend on the type of work and usage. Tips in constant use should be cleaned at least once a week.
4. Don't try to clean tip with abrasive materials and never file tip, to do so will greatly reduce tip life. If the tip becomes unwettable, it may be cleaned with a soft iron or brass brush using solder flux as a solvent; or the Weller® WPB1 Polishing Bar.
5. Don't remove excess solder from heated tip before storing. The excess solder will prevent oxidation of the wettable surface when tip is reheated.
6. Don't use anti-seize compounds on tips, the tips have been plated for oxidation protection.

WTCPT Troubleshooting Guide

WARNING: AC line voltage is present inside power unit even when power switch is off. Refer service to qualified personnel.
NOTE: Access to internal parts may be gained by removing four rubber feet, four bottom screws and top case.

1. Tool does not heat.
   - 1.1 Check at pin 1 and pin 2 of power unit tool receptacle for 24VAC. If not present, proceed to step 1.3. If power unit tests good, TC201T tool is defective.
   - 1.2 TC201T troubleshooting guide. (Tool does not heat)
     - 1.2.1 Tip check - inspect tip for missing magnastat or wrong type tip. Replace tip. Check tip spring action, there should be 1/16" minimum spring action.
     - 1.2.2 Heating element check - check resistance at pin 1 and pin 2 of tool plug for 12 to 14 ohms. If tool tests good, connector pins are worn or damaged and not making good contact. If tool tests bad, remove two screws from heating element flange. Grasp heater barrel and black heat insulator, pull heating element free from tool. Check resistance at two closely spaced pins on heating element for 12 to 14 ohms.
     - 1.2.3 Magnastat switch check - place tool on workbench with flat at rear of handle up. Insert 3/16" flat blade screw driver into slot at rear of handle. Compress cord by pushing downward and toward handle until cord is pushed into handle (do not pry on handle). This releases the strain relief catch. Slide handle down cord to expose switch terminals. Check for proper magnastat switch operation by testing for continuity across magnastat switch terminals with tip held against end of switch; and loss of continuity when tip is removed. If magnastat checks good, check iron cord wiring for continuity.
   - 1.3 PU120T/PU240T power unit troubleshooting guide. (No 24VAC at tool receptacle, step 1.1)
     - 1.3.1 Check for switch light when unit is turned on. If switch light is not illuminated, replace fuse located in base. Use 6/10 amp fuse (315MA, 5X20MM on 240V models). If still not illuminated, the switch, line cord, or associated wiring is defective. Unplug unit from AC line and check wiring.
     - 1.3.2 Check for 26VAC, +/- 2V, between red and yellow transformer leads. Replace fuse or transformer if defective.
2. TC201T iron overheats or temperature is higher than marked on tip.
   - 2.1 Replace tip with Weller® tip.
   - 2.2 Check magnastat switch and heating element. Refer to step 1.2.2 and 1.2.3 above.
3. High tip voltage or indication of circuit component damage.
   - 3.1 Check for 2 ohms maximum from tip to ground prong on line cord plug, repair as required.





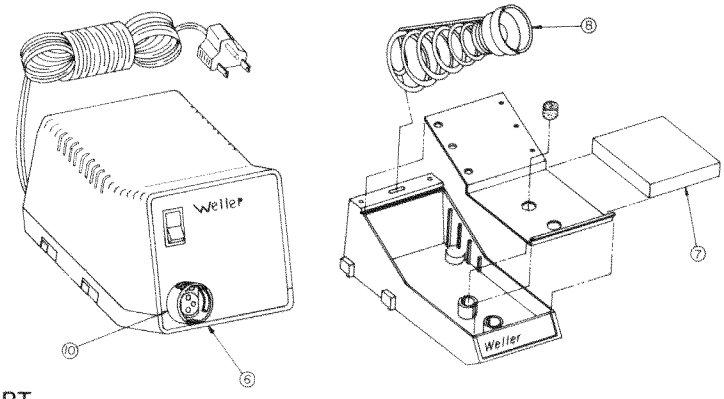
CUSTOMER SERVICE

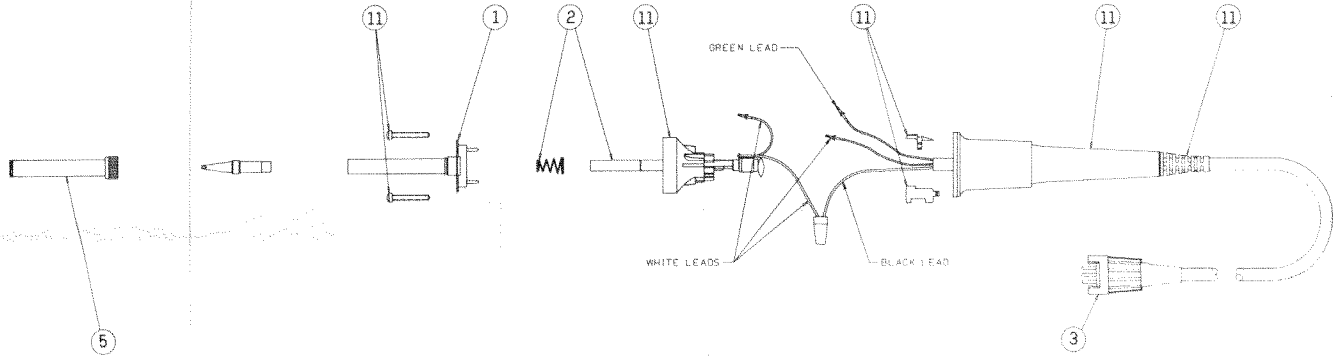
Should your WTCPT Require repair, it may be sent to the following address:

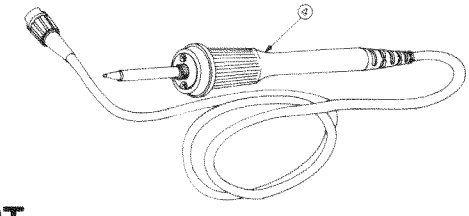
COOPER TOOLS - WELLER®/WIRE-WRAP® PLANT
815 State Road
Cheraw, SC 29520
Attn: Repair Dept.

Replacement Parts For The WTCPT

Key No.	Part No.	Description
1	EC234	Heater
2	SW60	Switch assembly with spring
3	TC217	Cordset with plug
4	TC201T	Soldering iron with PTA7 tip
5	BA60	Barrel nut assembly
6	PU120T	Power unit only, WTCPT, 120V
6a	PU240T	Power unit only, WTCPTD, 240V
7	TC205	Sponge
8	TC204	Spring and funnel for iron stand
9	PH1201ESD	Iron stand with spring and funnel
10	PL120	Plug/receptacle kit
11	TC218	Handle assembly
Not Shown	SHA1	Cushion grip sleeve
Not Shown	SW130	Switch, 120VAC, WTCPT
Not Shown	SW230	Switch, 240VAC, WTCPTD
Not Shown	TR215	Power transformer, 120VAC, WTCPT
Not Shown	TR216	Power transformer, 240VAC, WTCPTD







Optional Parts For The WTCPT

Part No.	Description
DPH-2	Dual iron holder stand
SF60	Tool funnel for SMT tips
SMTA6	600° F Surface mount tip adapter for TC201T
SMTA7	700° F Surface mount tip adapter for TC201T
SMTA8	800° F Surface mount tip adapter for TC201T
WPB1	WELLER® tip polishing bar

© 1993 COOPER INDUSTRIES, INC.